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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,701	12/11/2006	Karin Ekberg	FDEHN10.001APC	3695

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EXAMINER	
MACFARLANE, STACEY NEE	
ART UNIT	**PAPER NUMBER**
1649	

NOTIFICATION DATE	DELIVERY MODE
06/18/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/575,701	EKBERG ET AL.	
	Examiner	Art Unit	
	STACEY MACFARLANE	1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3 and 10-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3 and 10-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/12/2006; 12/11/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II, claims 3 and 10-15, in the reply filed on April 3, 2009 is acknowledged.

2. Claims 4-9 have been cancelled in the amendment filed April 3, 2009. Claims 3 and 10-15 are pending and will be examined upon their merits in the instant Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Regarding claim 14, the phrase "uncompromised" renders the claim indefinite. The specification does not explicitly define compromised and/or uncompromised solutions in such a way that one of ordinary skill in the art would be able to assess the degree required by the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 3, 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ido et al., Science, 277:563-566, 25 July 1997, citation "5" on the IDS filed 12/11/2006.

8. Claims are drawn to a method of treating diabetes and or diabetes-related microvascular complications comprising administering C-peptide or a pharmaceutical composition comprising C-peptide to a patient in a once daily dose, wherein said once daily dose does not include continuous administration of the presence of release controlling agents; wherein the C-peptide is human; the medicament contains 100-1800 nmol of C-peptide and the complications are nephropathy, retinopathy or neuropathy.

9. The Ido et al., prior art teaches administration of C-peptide treats vascular and neuronal dysfunction in diabetic rats. The Ido reference teaches 130 nmol/kg delivered twice daily by subcutaneous bolus injection.

10. The Ido reference does not teach “one daily dose” as recited in the claim, however, the daily C-peptide delivered in the Ido prior art is within the range of the instant claims (claim 13). Furthermore, the court has held that only result-effective

variables can be optimized. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

MPEP 2144.05 states,

> Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). For more recent cases applying this principle, see Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

In the instant case, the specification explicitly states in Results "the once daily dose is as effective as three daily dose [*sic*] or a continuous infusion" (page 21). Therefore, the method of treatment of instant claims fails to distinguish over that of the prior art and the invention as a whole is *prima facie obvious*, if not actually anticipated by the reference.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ido et al.(1997) as applied to claims 3, 10, 13 and 15 above, and further in view of Johansson et al., Diabetologia, 39:687-695, 1996.

12. The Ido et al., prior art teaches administration of 260 nmol/kg per day of C-peptide treats vascular and neuronal dysfunction in diabetic rats. The Ido et al. reference does not teach administration wherein the patient is a human. The Johansson et al. reference teaches that it was well known in the art at the time of filing that C-peptide administration improves autonomic nerve function in diabetic human patients.

13. It would have been obvious to one of ordinary skill to use the method as taught by Ido et al. for the treatment of humans as taught by Johansson et al. A skilled artisan would be motivated to combine because both references explicitly teach C-peptide administration as treating diabetic neuropathy. Therefore, the invention as a whole is *prima facie* obvious in view of the explicit teachings of the references.

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ido et al.(1997) as applied to claims 3, 10, 13 and 15 above, and further in view of Wahren et al., WO/1998/013384 published 2 April 1998 and Johansson et al., Biochemical and Biophysical Research Communications, 295(5):1035-1040, 2 August 2002, citation "6" on the IDS filed 12/11/2006.

15. The Ido et al., prior art teaches that the administration of 260 nmol/kg per day of C-peptide treats vascular and neuronal dysfunction in diabetic rats. The Ido et al. reference does not teach administration wherein the C-peptide is a fragment EGSLQ (SEQ ID NO: 2). The Wahren et al. reference teaches that the fragment consisting of SEQ ID NO: 2 (which is identical to SEQ ID NO: 3 or "Peptide E" of Wahren reference) has the same stimulatory activity and molecular effect as full-length C-peptide (Example 1). Similarly, the Johansson et al. (2002), prior art teaches that the pentapeptide elicits increased intracellular calcium and MAP-kinase phosphorylation similar to full-length peptide (page 1037, paragraph bridging columns).

16. It would have been obvious to one of ordinary skill in the art to substitute the EGSLQ pentapeptide fragment in the method of Ido et al. A skilled artisan would be

motivated to combine because this specific fragment maintains the stimulatory activity and molecular effects of the C-peptide itself.

17. In KSR International Co. v. Teleflex, Inc., the Supreme Court has stated that where there is a "pressure to solve a problem and a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (KSR International Co. v. Teleflex, Inc. 127 S. Ct. 1727, 82 USPQ2d 1385, Supreme Court, April 30, 2007). In the instant case, the problem to be solved is treatment of diabetes and the art demonstrates that there is a finite number of C-peptide or active fragments thereof that are capable of mediating physiological effect. Thus, it would have been obvious for a skilled artisan to substitute the molecules with similar activity in the method of the Ido et al. prior art.

Conclusion

18. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STACEY MACFARLANE whose telephone number is (571)270-3057. The examiner can normally be reached on M-W and F 5:30 to 2, TELEWORK-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker can be reached on (571) 272-0911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stacey MacFarlane
Examiner
Art Unit 1649

/John D. Ulm/
Primary Examiner, Art Unit 1649